~~wherein~~

~~R^1 is a C_{1-10} alkyl, $-(R^3Q)_pR^3-$ or C_6-C_{20} aryl where Q is O or S,~~

~~each R^3 is independently C_{1-6} alkyl, and~~

~~p is an integer between 0 and 6,~~

~~R^2 is C_{1-6} alkyloxy or C_{5-12} cycloalkyloxy,~~

~~R^4 is H, C_{1-6} alkyl alcohol and C_{0-6} alkyl substituted with $-[CH_2CH_2(R^2)_m]-X$, where X is a halogen,~~

~~m is an integer between 1 and 4, and~~

~~n is an integer selected to yield a molecular weight for said polythioether of between 1000 and 10,000 Daltons.~~

$H-S-R^1-[-S-(CH_2)_p-O-(-R^2-O-)_m-(CH_2)_q-S-R^1-]_n-S-H$

wherein

R^1 is selected from the group consisting of C_{2-6} n-alkylene, and a $-[(-CH_2)_p-X]_q-(-CH_2)_r-$ group;

R^2 is selected from the group consisting of C_{2-6} n-alkylene, and C_{6-8} cycloalkylene;

X is selected from the group consisting of O and S;

m is an integer between 0 and 10;

p is an integer between 2 and 6;

q is an integer between 1 and 5;

r is an integer between 2 and 10; and

n is an integer between 1 and 60 selected so that the molecular weight of the polythioether is between 1,000 and 10,000 Daltons.

23. (currently amended) The polythioether of claim 22 wherein R^1 is ~~C_2-C_8~~ C_2-C_6 n-alkylene.

24. (currently amended) The polythioether of claim 22 where R^1 is $-[(-CH_2-)_p-O-]_q-(-CH_2-)_r-$ where r, p, and q are 2 ~~is $-(R^3Q)_pR^3-$ where R^3 in each occurrence is C_{1-2} alkylene and p being 1 or 2~~.

25. (currently amended) The polythioether of claim 22 wherein R^2 is ~~C_1-C_2~~ C_2 alkyleneoxy.

26. (currently amended) The polythioether of claim 22 wherein the molecular weight of said polythioether ranges from about ~~is between~~ 2000 to about ~~and 6000~~ 5000 Daltons.

27. (currently amended) The polythioether of claim 22 ~~wherein R^4 is hydrogen~~ having an atomic percentage ratio of C:S:O of 35-49 : 20-60 : 0-20.

28-30. (canceled)

31. (currently amended) A mixture of polythioether polymers comprising:

a polythioether polymer having the formula

~~$B-(S-[R^1-S-CH_2CH_2-(R^2)_m-S-]_n-R^1-S-R^4-)_z$~~

~~where B is a z-valent group of a polyfunctionalizing agent, z is an integer from 3 to 6,~~

~~R^1 is a C_{1-10} alkyl, $-(R^3Q)_pR^3-$ or C_6-C_{10} aryl where Q is O or S,~~

~~each R^3 is independently C_{1-6} alkyl, and~~

~~p is an integer between 0 and 6,~~

~~R^2 is C_{1-6} alkyloxy or [[C_{5-12}]].cycloalkyloxy,~~

~~R^4 is H, C_{1-6} alkyl alcohol and C_{0-6} alkyl substituted with $-[CH_2CH_2(R^2)_m]-X$, where X is a halogen,~~

~~m is an integer between 1 and 4, and~~

~~n is an integer selected to yield a molecular weight for said polythioether of between 1000 and 10,000 Daltons.~~

$B-\{-S-R^1-[-S-(CH_2)_p-O-(R^2-O)_m-(CH_2)_q-S-R^1]_n-S-H\}_z$

wherein

R^1 is selected from the group consisting of C_{2-6} n-alkylene, and a $-[(-CH_2)_p-X]_q-(-CH_2)_r-$ group;

R^2 is selected from the group consisting of C_{2-6} n-alkylene, and C_{6-8} cycloalkylene;

X is selected from the group consisting of O and S;

m is an integer between 1 and 10;

p is an integer between 2 and 6;

q is an integer between 1 and 5;

r is an integer between 2 and 10;

z is an integer from 3 to 6;

B is a z-valent group of a polyfunctionalizing agent; and

n is an integer between 1 and 60 selected so that the molecular weight of the polythioether is between 1,000 and 10,000 Daltons.

32. (previously added) The polythioether mixture of claim 31 wherein z is 3.

33. (currently amended) The polythioether mixture of claim 31 wherein the mixture has an average functionality between ~~2~~ 3 and 4.

34. (previously added) The polythioether mixture of claim 33 wherein the average functionality is between 2.05 and 3.00.

35. (currently amended) A curable composition comprising:

~~42 to 80~~ 40 to 80 weight percent of a polythioether polymer according to claim 22,

~~0.3 to 15~~ 5 to 60 weight percent of a ~~lightweight~~ filler and ~~0.1 to 20~~ 10 weight percent of a curing agent.

36. (currently amended) The curable composition of claim 35 further comprising one or more additives selected from the group consisting of: pigments, cure accelerators, ~~surfactants,~~ adhesion promoters, thixotropic agents and isopropyl alcohol ~~solvents~~.

37-40. (canceled).